

AMENDMENTS TO THE CLAIMS

The following listing of claims replaces all prior versions of claims in the application.

1-7. (Cancelled).

8. (Currently amended): ~~A functional material as claimed in claim 7, wherein the functional material is mainly~~ The noble metal nanotube as claimed in claim 16, wherein the noble metal nanotube is used for application as a catalyst for fuel cell, automobile exhaust, or the like.

9. (Currently amended): ~~A functional material as claimed in claim 7, wherein the functional material is mainly~~ The noble metal nanotube as claimed in claim 16, wherein the noble metal nanotube is used for application as an electrode for electrolysis or the like.

10. (Currently amended): ~~A functional material as claimed in claim 7, wherein the functional material is mainly~~ The noble metal nanotube as claimed in claim 16, wherein the noble metal nanotube is used for application as a sensor or a shape-memory sensor for detecting temperature, pressure, humidity, dew condensation, flow rate, wind velocity, light, gas, oxygen concentration or displacement.

11. (Currently amended): ~~A functional material as claimed in claim 7, wherein the~~

~~functional material is mainly~~ The noble metal nanotube as claimed in claim 16, wherein the noble metal nanotube is used for application as paste.

12. (Currently amended): ~~A functional material as claimed in claim 7, wherein the functional material is mainly~~ The noble metal nanotube as claimed in claim 16, wherein the noble metal nanotube is used for application as an electric wiring material, an electrical resistive material, or a capacitor.

13. (Currently amended): ~~A functional material as claimed in claim 7, wherein the functional material is mainly~~ The noble metal nanotube as claimed in claim 16, wherein the noble metal nanotube is used for application as permanent magnet.

14. (Currently amended): ~~A functional material as claimed in claim 7, wherein the functional material is mainly~~ The noble metal nanotube as claimed in claim 16, wherein the noble metal nanotube is used for application as a component of a microreactor.

15. (Currently amended): ~~A functional material as claimed in claim 7, wherein the functional material is mainly~~ The noble metal nanotube as claimed in claim 16, wherein the noble metal nanotube is used for application as a substance-storing material.

16. (New): A noble metal nanotube, comprising:
a skeleton of noble metal nanotube comprising at least one selected from the group

consisting of gold (Au), silver (Ag), platinum (Pt), palladium (Pd), rhodium (Rh), and iridium (Ir) as noble metal elements,

wherein the noble metal nanotube has a tubular form of about 5-7 nm in outer diameter, 2-4 nm in inner diameter, about 1-2 nm in thickness, and 10 nm or more in length.

17. (New): A noble metal nanotube according to claim 16, wherein the skeleton of the noble metal nanotube comprising a single noble metal selected from a group consisting of gold (Au), silver (Ag), platinum (Pt), palladium (Pd), rhodium (Rh), iridium (Ir), and ruthenium (Ru) as noble metal elements.

18. (New): The noble metal nanotube according to claim 16, wherein the skeleton of the noble metal nanotube further comprising one or more elements selected from a group of base metals are mixed in any proportions.

19. (New): The noble metal nanotube according to claim 16, wherein the skeleton of the noble metal nanotube further comprising nickel (Ni).

20. (New): A producing method of a noble metal nanotube, comprising: a skeleton of the noble metal nanotube comprising one or more selected from the group consisting of gold (Au), silver (Ag), platinum (Pt), palladium (Pd), rhodium (Rh), iridium (Ir) and ruthenium (Ru) as noble metal elements and the noble metal nanotube has a tubular form of about 5-7 nm in outer diameter, about 2-4 nm in inner diameter, about 1-2 nm in thickness, and 10 nm or more in length, the method

comprising:

preparing a reaction mixture of at least one or more metal salts or metal complex compounds selected from a group of noble metal salts and noble metal complex compounds, chlorides, and metal oxides of gold (Au), silver (Ag), platinum (Pt), palladium (Pd), rhodium (Rh), and iridium (Ir) as noble metal elements; two kinds of nonionic surfactants or one kind of nonionic surfactant and one kind of ionic surfactant i.e. two kinds of surfactants selected from a group consisting of polyoxyethylene alkyl ethers, polyoxyethylene fatty acid esters, organic sodium sulfates and sodium dodecylbenzenesulfonate, alkylammonium salts bromide, polyoxyethylene sorbitan ester, polyoxyethylene alkyl phenyl ether, and polyoxyethylene polyoxypropylene block polymer; and water.

21. (New): The producing method as claimed in claim 20, the method further comprising: preparing a reaction mixture containing either or both of acid and alcohol and, after that, adding reducing agent into the reaction mixture or irradiating the reaction mixture with light to cause reaction so as to produce the noble metal nanotube, and collecting the noble metal nanotube.

22. (New): The producing method as claimed in claim 21, wherein said acid is nitric acid.

23. (New): The producing method as claimed in claim 21, wherein said alcohol is dodecyl alcohol.

24. (New): The producing method as claimed in claim 20, wherein said polyoxyethylene alkyl ethers is nonaethylene glycol monohexadecyl ether.

25. (New): The producing method as claimed in claim 20, wherein said alkylammonium salts is hexadecyltrimethylammonium bromide.

26. (New): The producing method as claimed in claim 20, wherein said polyoxyethylene sorbitan ester is polyoxyethylene sorbitan monostearate.

27. (New): The producing method as claimed in claim 20, wherein said alcohol is dodecyl alcohol.

28. (New): The producing method as claimed in claim 20, wherein said reducing agent is hydrazine.

29. (New): The producing method as claimed in claim 20, wherein the reaction mixture comprises only one metal salt or metal complex compound.

30. (New): The producing method as claimed in claim 20, wherein the reaction mixture further comprises one or more base metal salts.

31. (New): The producing method as claimed in claim 30, wherein said reaction mixture

comprises base metal salts selected from nitrate salts and chlorides.

32. (New): The producing method as claimed in claim 30, wherein the reaction mixture further comprises one or more nickel (Ni) salts.